

## Technical Page

Proposal Type: Large  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Galactic  
 Total Time Requested: 326.2 hours Hours

**Proposal Title:** The Inner Galaxy ALFA (I-GALFA) Low-Latitude HI Survey

**ABSTRACT:**

We propose to map the whole inner Galactic plane visible from Arecibo to  $|b| \leq 10^\circ$  in HI 21-cm line emission using ALFA. A few G-ALFA projects have begun mapping small low-latitude regions in different ways, but now that the observational techniques have been demonstrated, it is time for a more systematic approach that will serve the whole astronomical community. Our proposed map area is 1078 square degrees. The survey will have an integration time of 4.1s per Nyquist pixel ( $1.8' \times 1.8'$ ) and will require 129 days. This project will produce data that is essential for addressing all of the HI low-latitude studies listed in the GALFA White Paper. The extensive latitude coverage of the survey will reveal the full structures of chimneys/worms and significantly expand the catalog of halo clouds, both of which are essential for understanding the disk-halo connection. The observations are commensally paired with a Zone of Avoidance (ZOA) proposal (Henning et al.) to search the same area with the WAPPS for HI galaxies hidden behind the Milky Way.

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**Service Observing Request**

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

**Remote Observing Request**

- No
- Maybe
- Yes

**Instrument Setup**

ALFA

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

## **RFI Considerations**

### **Frequency Ranges Planned**

1388.15 - 1488.15 MHz  
(fixed GALSPECT 100 MHz band)